American Electric Power
Cook Nuclear Plant
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Bridgman, MI 49106
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AEP
AMERICAN
ELECTRIC
POWER

June 1, 1998

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Operating Licenses DPR-58
Docket No. 50-315

Document Control Manager:

In accordance with the criteria established by 10 CFR 50.73 entitled Licensee Event Report System, the following report is being submitted:

98-006-02

Sincerely,

J. R. Sampson
Site Vice President

/mbd

Attachment

c: C. J. Paperiello (Acting), Region III
J. R. Sampson
P. A. Barrett
S. J. Brewer
R. Whale
D. Hahn
Records Center, INPO
NRC Resident Inspector

NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	Page 1 of 3
Donald C. Cook Nuclear Plant - Unit 1	50-315	

TITLE (4)
Ice Basket Weighing Option Results in Potential Unanalyzed Codition Due to Lack of Technical Basis for Option

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
02	25	98	98	-- 006 --	02	06	01	98	Cook - Unit 2	50-316
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	5
POWER LEVEL (10)	0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	20.2201(b)		20.2203(a)(3)(I)		50.73(a)(2)(iii)		73.71(b)
	20.2203(a)(1)		20.2203(a)(3)(ii)		50.73(a)(2)(iv)		73.71©
	20.2203(a)(2)(I)		20.2203(a)(4)		50.73(a)(2)(v)		OTHER
	20.2203(a)(2)(ii)		50.36(c)(1)		50.73(a)(2)(vii)		(Specify in Abstract below and in Text, NRC Form 366A)
	20.2203(a)(2)(iii)		50.36(c)(2)		50.73(a)(2)(viii)(A)		
	20.2203(a)(2)(iv)		50.73(a)(2)(I)		50.73(a)(2)(viii)(B)		
	20.2203(a)(2)(v)	X	50.73(a)(2)(ii)		50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Mr. Paul Schoepf, Safety Related Mechanical Engineering Superintendent	616/465-5901, x2408

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On February 25, 1998 with Unit 1 and Unit 2 in Mode 5, as a result of a request made during the NRC 1998 special ice condenser inspection, it was determined that the plant procedure for weighing ice baskets contained a step which potentially allowed the unpinning of up to 60 ice baskets during Modes 3 and 4. No analysis or technical basis document for the step could be located to support the procedural steps, and it was therefore determined that this represented an unanalyzed condition. An ENS notification was made at 1825 hours EST in accordance with 10CFR50.72(b)(2)(i). This LER is submitted in accordance with 10CFR50.73(a)(2)(ii) for an unanalyzed condition found while the plant was shut down.

The cause of this condition was the failure to maintain the design basis for the ice condenser and its associated activities. The plant procedure for ice basket weighing was revised to delete the steps which allowed the unpinning of the ice baskets. The basis of the ice condenser surveillance program will be reconstituted prior to restart of either unit.

The safety significance of 60 baskets ejecting during a postulated accident has been evaluated by Westinghouse. It was determined that the possibility of the unpinned ice baskets ejecting from the ice bed is extremely remote. If an ejection were to occur, the resultant configuration would not prevent the ice condenser from performing its intended function, therefore, this condition is of minimal safety significance.

Conditions Prior to Event
Unit 1 was in Mode 5, Cold Shutdown
Unit 2 was in Mode 5, Cold Shutdown

Description of Event
During the NRC 1998 special inspection of the ice condenser systems, a request was made for the technical basis of procedure **12 EHP 4030.STP.211,"Ice Condenser Surveillance" , Revision 2, Change Sheet 5, Step 4.8. This step contained wording that allowed unpinning of ice baskets during Modes 3 and 4 for the purpose of weighing the baskets. A search was initiated to locate the analysis, but it could not be located.

The investigation revealed that the wording contained in Step 4.8 first appeared in Revision 1 to the procedure, which was issued in November 1975. No supporting documentation exists for this procedure revision, as the pre-1982 surveillance procedure records have been disposed of. It was determined that the provision for unpinning the baskets in Modes 3 and 4 would most likely have been used in the 1975 to 1984 time frame, as after 1984 an electronic weighing device was used. The electronic weighing device allowed the baskets to be weighed without having to unpin them.

Westinghouse conducted a documentation search for the basis of the wording which was also unsuccessful. The only documentation which could be located which appears related is the Technical Specification Amendment 4 for Unit 1, which was issued in April 1975. The wording of the Containment Systems Surveillance Requirements states a requirement to weigh a "representative sample of at least 60 ice baskets and verifying that each basket contains at least 1400 pounds of ice". This is the most likely the source of Step 4.8 of the procedure, but still does not provide any technical basis.

A further record search revealed that in January, April, July and September of 1976, Unit 1 weighed a sample population of ice baskets as a part of the continuing long term evaluation of the ice condenser system. The three month intervals between weighings suggest that the plant did not descend to Mode 5 to weigh the baskets, but weighed the unpinned baskets while in Mode 3 or 4. No further documentation was located which proved or disproved that baskets had been weighed in Mode 3 or 4.

Provisions were made in **12 EHP 4030.STP.211 to control the basket pins such that no more than 60 baskets would be unpinned at any one time. An attachment to the procedure, entitled " Pin Accountability Data Sheets", stated that a maximum of 60 pins, 20 per bay, could be pulled at any one time. The attachment also required that the basket number, time and date the pin was either pulled or replaced, and the name of the person who manipulated the pin be recorded. This attachment ensured that the maximum of 60 was not exceed, and that all pins were accounted for. Based on this, there is no concern that more than 60 baskets were unpinned at any one time.

Cause of Event
The cause of this condition was the failure to document and maintain the design basis for the ice condenser and its associated activities.

Analysis of Event
This condition was reported by ENS notification made at 1825 hours EST on February 25, 1998, in accordance with 10CFR50.72(b)(2)(i), any unanalyzed condition discovered while the plant is shut down. This LER is therefore submitted in accordance with 10CFR50.73(b)(2)(ii) for an unanalyzed condition discovered while the plant was shut down.

Analysis of Event (cont'd)

The safety significance of 60 baskets ejecting during a postulated accident has been evaluated by Westinghouse. It should be noted that the analysis refers to unobstructed baskets and obstructed baskets, and provides analysis for each.

During a postulated accident, if unobstructed baskets are not secured at the bottom rim, they could eject 13 feet 5 inches upward into the upper plenum area of the ice condenser due to blowdown forces. Unobstructed baskets are those baskets located directly below the intermediate deck doors and are not impeded by the intermediate deck frames. The upward displacement of these baskets would not be enough to open steam bypass flow routes around the ice condenser.

For the obstructed baskets that are located below the intermediate deck frames, multiple unsecured baskets ejecting simultaneously and impacting an intermediate deck frame in one bay may cause the frame to plastically deform. However, this scenario is extremely unlikely for the following reasons:

- Basket columns would need to be of identical weight and exert identical frictional forces on the lattice steel framework,
- No lateral forces could be exerted against the basket columns during the blowdown, and
- Basket columns would need to have exactly the same net uplift force transient.

It was judged that the current calculated subcompartment loadings for the peak differential pressure across the shell, the operating deck, the lower crane wall, and the upper crane wall will essentially be unaffected whenever the effects of the 60 unpinned baskets is considered.

In conclusion, it was determined that the possibility of the unpinned ice baskets or ice basket columns ejecting from the ice bed is extremely remote. If an ejection were to occur, the resultant configuration would not prevent the ice condenser from performing its intended function, therefore, this condition is of minimal safety significance.

Corrective Actions

The plant procedure for ice basket weighing, **12 EHP 4030.STP.211, was revised in March 1998, to delete the step which allowed the unpinning of the ice baskets.

The basis of the ice condenser surveillance program will be reconstituted prior to restart of either unit. This will ensure that an adequate basis exists for the direction provided in the surveillance procedures associated with the ice condenser.

A comprehensive assessment of the plant surveillance program is being performed as part of the Restart Plan. This assessment will be completed prior to restart of either unit. Specific actions that arise from this assessment will be communicated to the NRC during the restart process.

Failed Component Identification

Not Applicable

Previous Similar Events

None

CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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AUTH.NAME AUTHOR AFFILIATION
SCHOEF ',P. American Electric Power Co., Inc.
SAMPSON,J.R. American Electric Power Co., Inc.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 98-006-02:on 980225,ice basket weighing option resulted in potential unanalyzed condition due to lack of technical basis for option.Caused by failure to maintain design basis for ice condenser.Revised plant procedure.W/980601 ltr.

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